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Future of IHEPCCC

A proposal...

dapnia
cead
saclay

CNRS
CENTRE NATIONAL
DE LA RECHERCHE
SCIENTIFIQUE



Mission



- High level coordination between major computing sites
- Prepare future of HEP computing
- Evaluate computing needs of future experiments considered by ICFA
- Build and develop computing infrastructure in emerging countries
- Education and Outreach



Tasks and Organization



- Meet 3 to 4 time / year
- Prepare a report to ICFA once a year
- Have a face to face meeting at least once a year (CHEP – HEPIX (?) – With SCIC (??))
- Leverage expert work done in other committees (HEPIX – W-LCG ...)
- Initiate dedicated workshops on specific subjects
 - Will help to identify expert communities ready to work
- Make recommendations to validate new developments and help to build communities around them



Areas of work



- Note that the following list is neither exhaustive nor a commitment from the IHEPCCC to work on all the subjects
- Working subject will be selected according to priorities settled by the committee
- The main idea is to prepare the future of HEP computing
- IHEPCCC members are not expected to do the work 😊 They are supposed to get and transmit a vision of what should be done

■ Evolution of HEP Computing

- Future experiments → give recommendation to ICFA on computing issues (avoid to build an LHC without thinking about computing issues and cost !)
- Future architecture
 - Many cores ...
- Tomorrow's analysis model
- Languages – new programming concepts
- Astroparticles
 - Large memories
 - Parallel computers
 - Huge datasets / Indexing (LSST for instance...)

- New computing paradigms
 - Cloud computing Vs Grid computing (are we able to anticipate what will be tomorrow's model for HEP)
- Relationships with HPC
 - Any usage of massively parallel computers in HEP ?
 - The Lattice QCD case
- Emerging technologies
 - Hardware and software
 - Are we able to setup something to be able to identify interesting new ideas / products

- Computing / Data centers
 - Everyone is concerned
 - Need to setup some coordination to share experience and ideas
 - Green IT
- Opening and relationships with/to other sciences
 - Biology
 - Biomedicine
 - Humanities
 - ...

- Education and outreach

- Emerging countries
 - Strong relationship with SCIC
 - Have a yearly workshop, possibly coupled with SCIC in an emerging country
 - Need to discuss this in details with Harvey
 - Make recommendation with ICFA label at government level